DOCUMENT RESUME

ED 258 475 FL 015 104

AUTHOR	Arter, Judith; And Others
TITLE	A Study of English Language Training for Refugees in the United States. Phase Three: The Influence of Language Training and Employment on Adult Refugees' Acquisition of English. Technical Report.
INSTITUTION	Northwest Regional Educational Lab., Portland, Oreg. Office of Research and Evaluation Services.
SPONS AGENCY	Office of Refugee Resettlement (DHHS), Washington, D.C.
PUB DATE	Jun 84
CONTRACT	HHS-100-81-0066
NOTE	52p.; For related documents, see FL 015 101-105.
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	Adults; *Asian Americans; Costs; Educational Quality; Employment Patterns; *English (Second Language); Financial Support; *Language Proficiency; National Surveys; Program Administration; Program Design; *Program Effectiveness; *Refugees; Regional Planning; Second Language Learning; *Second Language Programs; State Agencies; Student Characteristics; Tables (Data)

ABSTRACT

The third phase of a national study of the impact of English language training programs on adult Southeast Asian refugees in the United States involved a longitudinal study of 400 recently-arrived refugees chosen at random from reception lines of refugee centers in four metropolitan areas: Portland, Oregon; San Diego; Oklahoma City; and Denver. The refugees were given oral English proficiency tests upon arrival and again after six months' residence. Demographic information, including data on English language training and employment, was also gathered to examine the effects of these factors on the rate of English language learning. The report outlines the design and results of this phase of the study, including data tables. It is concluded that English language training promotes language learning more than employment does, regardless of the background or experience of the refugees. The amount of previous education is found to be the most important predictor of skill in Englih, and age is the most important predictor of gain in skill. (MSE)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED258475

A STUDY OF ENGLISH LANGUAGE TRAINING FOR REFUGEES IN THE UNITED STATES

Phase Three: The Influence of Language Training and Employment on Adult Refugees' Acquisition of English

TECHNICAL REPORT

June 1984

Judith Arter
William Hadley
Stephen Reder

Prepared for:

Office of Refugee Resettlement
United States Department of Health and Human Services

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
M. Margaret Rogers
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Prepared by the

Literacy & Language Program
Division of Evaluation, Research and Assessment
Northwest Regional Educational Laboratory
300 S.W. Sixth Avenue
Portland, Oregon 97204

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
[ ] This document has been reproduced as received from the person or organization originating it.
[ ] Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent offical NIE position or policy.

Contract No.: HHS-100-81-0066

FL 015 104

The material presented herein was developed by the Northwest Regional Educational Laboratory under Contract Number HHS-100-81-0066 with the United States Department of Health and Human Services. The opinions expressed in this document do not necessarily reflect the position or policy of the Department of Health and Human Services and no official endorsement by the Department should be inferred.

TABLE OF CONTENTS

		Page
	PREFACE	ii
I.	INTRODUCTION	1
	Phase III Study Questions	1
	Structure of the Report	2
II.	STUDY DESIGN	3
	Data Collected in the Study	3
	Sources of Information	4
	Study Steps	4
	Study Participants	4
	The BEST Test	6
III.	RESULTS	8
	Descriptive Statistics--Interesting Relationships and Features	8
	Factors Related to the Acquisition of English	12
IV.	CONCLUSIONS	17
	APPENDIX A: Tables and Figures	19
	APPENDIX B: Technical Concerns and Information About The Study Design and Analyses	31

PREFACE

English language proficiency has long been considered to be a crucially important component of effective refugee resettlement. Both resettlement agencies and refugees themselves identify lack of English as a major barrier to successful resettlement. The need for refugees arriving in the U.S. to use English is pervasive and immediate, reaching into every aspect of resettlement from social adjustment to employment; problems in learning English have become a metaphor for the myriad difficulties refugees face in the United States, so much so that refugees commonly say that the largest obstacle they face in the United States is "English."

The purpose of the Study of the Extent and Effect of English Language Training for Refugees (SRELT) project has been to investigate the language learning experience of recently arrived Southeast Asian adult refugees, particularly those with little previous education or exposure to Western culture, and to determine the factors which contribute most to their successful English acquisition. Although the project has focused primarily on federally-funded English language training programs, other factors affecting acquisition were also considered, particularly those related to the pre-entry and current resettlement experiences of refugees. Because refugees bring a wide range of life and language experiences with them to the classroom, analysis of the broader language acquisition context provides a more meaningful perspective from which to view the extent, nature, and effectiveness of English language training programs throughout the country.

The SRELT project was funded by a contract from the U.S. Office of Refugee Resettlement. Data was collected between October 1981 and June 1983. The Study was comprised of three phases, each of which used different methodologies and collected different kinds of information.

In Phase I of the Study, mail surveys were conducted to gather information on the extent, nature, cost and effect of English language training for adult refugees in programs being funded by ORR. Three types of questionnaires were mailed out: (1) a regional questionnaire sent to directors of the Regional Offices of ORR; (2) a state questionnaire sent to state coordinators; and (3) a local questionnaire mailed to 327 direct service providers receiving ORR funds for providing English language training to refugees during FFY 1981 and FFY 1982. The response rates to the surveys was over 70%.

During Phase II of the Study, intensive on-site program visits were carried out in eight selected metropolitan areas: San Diego, Seattle, Denver, Minneapolis/St. Paul, New Orleans, Oklahoma City, Northern Virginia/Washington DC and Stockton, California. These cities were selected to encompass a wide range of resettlement contexts and approaches to providing English language training to Southeast Asian refugees. Up to four ORR-funded programs operating in a given site were visited, as well as other selected programs serving large numbers of Southeast Asians. In all, 22 programs were visited during the Spring of 1982.

Program visits included several types of data collection: Informal dicussions were held with 32 program administrators, over 100 randomly selected teachers, over 400 randomly selected students and with bilingual staff. The primary focus of the visits, however, was on direct classroom observation, to see and document what was actually happening in the classrooms, rather than relying only on questionnaires and interviews. The design instrumentation for the classroom observations were carefully developed, so that in principle, one could isolate the effects of teacher, program and student characteristics on classroom events. In all, over 300 hours of structured, detailed observation were carried out in more than 120 classrooms.

An additional component of the Phase II work consisted of household surveys of local Southeast Asian refugee communities in four of the eight cities in which programs were visited. Randomly sampled Vietnamese, Cambodian and Hmong households were interviewed--400 households in all. These community surveys were designed to provide background information about the target population for English language training, their utilization of English language training programs, and their acquisition of English. Statistical analyses of survey data were carried out to determine the extent of service utilization by different segments of the target population and to identify factors which impact service utilization and acquisition of English.

The final component of the project, Phase III, involved a longitudinal study or tracking of a group of recently arrived Southeast Asian adult refugees. A cohort of 400 recently arrived Southeast Asian adults was selected at random from the reception lists of voluntary agencies in four cities: Portland, Oregon; San Diego; Oklahoma City; and Denver. Individuals were given a standardized oral interview test of English proficiency at two points in time: early in their resettlement and then again about six months later. Demographic information about the participants as well as their histories of English language training and employment were also collected. The Longitudinal Study was designed to examine the relative effects of early employment versus early language training on refugees' initial acquisition of English.

A series of reports has been prepared to describe the methods, findings and recommendations of this Study. A summary Public Report and a technical report for each of the three phases of the Study are available through the Educational Resource and Information Clearinghouse (ERIC) and through the Refugee Materials Center, U.S. Department of Education, Region VII, 324 Eleventh Street, Ninth Floor, Kansas City, Missouri 64106.

This Study was carried out as a team effort by the Literacy and Language Program at the Northwest Regional Educational Laboratory. Key staff included:

Stephen Reder, Project Director

> Lead role in the overall design of the Study, in developing the methodology for Phase II, the methodology for Phase III and analysis of Community Survey data. Assisted with program visits and analysis of classroom observation and Longitudinal Study data.

Mary Cohn, Phase II Coordinator

Lead role in planning, conducting, analyzing and writing up the program visits and classroom observations. Assisted with interpretation of Phase I and III data.

Judith Arter, Phase III Coordinator

Lead role in planning, conducting, analyzing and writing up the Phase III Longitudinal Study and analyzing the Phase I data. Assisted with Phase II program visits.

Steven Nelson, Phase I Coordinator

Lead role in planning, implementing, and writing up the Phase I Mail Survey. Assisted with program visits in Phase II.

Randy Nelson

Conducted data analysis of the Phase II classroom observation data.

William Hadley

Assisted with conducting the Phase III Longitudinal Study and with the write-up of Phase I.

Rosalind Hamar, Lucinda Wong and Karen Green

Assisted with program visits in Phase II.

Susie Barfield

Responsible for support services and material production as well as assisting with project management.

The staff would like to acknowledge the many individuals and programs whose cooperation and assistance were invaluable to the Study. First are several groups which are so large that we cannot name all of their members:

- the hundreds of program administrators who took precious hours away from already pressing schedules to complete the mail survey questionnaires;
- the four hundred families who allowed us to come into their homes to complete the community surveys in the Minneapolis/St. Paul, Denver, Stockton, and Seattle areas;
- the teachers and students in the 120 classrooms who allowed us to come in and observe their classes on several occasions;
- the numerous refugees who participated in the standardized testing during the Longitudinal Study in Portland, Denver, San Diego and Oklahoma City;

- the many part-time bilingual staff who assisted us in conducting the program visits and community surveys in Seattle, Stockton, San Diego, Denver, New Orleans, Minneapolis/St. Paul, Oklahoma City and Arlington County, Virginia.

In addition to these many important but unnamed individuals, a number of individuals and organizations who played an important role in this Study must be added. They are:

Phase I

Advisory Board Members:

Jerry Burns
Thomas Dieterich
Thomas Gilligan
Jim Pullen
Joyce Wilson

Phase II

Consultants:

James Nattinger
Joyce Wilson

Field Test Sites:

Kathy Ali, BET/ESL Program
Committee of Spanish Speaking People of Oregon, Portland, Oregon

Nancy Bennani, Refugee ESL
Portland Community College, Portland, Oregon

Tou Meksavanh, Refugee ESL
Mt. Hood Community College, Portland, Oregon

Carrie Wilson, Women's Program
Indochinese Cultural and Service Center, Portland, Oregon

Joyce Wilson
Chemeketa Community College, Salem, Oregon

Study Sites:

Donn Callaway
Griffin Business College, Seattle, Washington

Rachel Hidaka & Duang Dunning
Seattle Central Community College, Seattle, Washington

Joyce Kruithof
Edmonds Community College, Lynnwood, Washington

Delight Willing & Sara Hogan
Renton Vocational/Technical Institute, Renton, Washington

Faith Boucher & Joy Dorman
Stockton Catholic Charities, Stockton, California

Mary Ann Cox, Martha Rice, & Jane Casserley
San Joaquin Delta College, Stockton, California

Barbara Douglass
Indochinese Orientation and Employment Program
Centre City Adult School, San Diego, California

Autumn Keltner, Leann Howard & Gretchen Bitterlin
San Diego Community College, San Diego, California

Janet Gummoe
Adult Education Tutorial Program & Southeast Metro Board of Cooperative Services, Denver, Colorado

Arvin Larkanau
Aurora Public School District, Aurora, Colorado

Marilyn Weir
Emily Griffith Opportunity School, Denver, Colorado

Annagreta Hojdahl
Delgado Community College, New Orleans, Louisiana

Sharon Rodi & Charles Olmstead
Associated Catholic Charities, New Orleans, Louisiana

Ron Handley & Diane Pecoraro
Minneapolis Public Schools, Lehman Center, Minneapolis, Minnesota

Pat Hatteberg, Adult Homemakers Program
St. Paul TVI, St. Paul, Minnesota

Vang Sing, Educational Coordinator
Lao Family Community Association, St. Paul, Minnesota

Ken Truitner & Janise Rowecamp
International Institute of Minnesota, St. Paul, Minnesota

Nguyen Dinh Thu & Charles Muzny
Vietnamese American Association, Oklahoma City, Oklahoma

Elaine Baush, Helen Range & Kenneth Plum
Fairfax County, Adult Basic Education, Falls Church, Virginia

June Rigamonti
Montgomery County Public Schools, Silver Spring, Maryland

Bette Daudu
Takoma Park School, Takoma Park, Maryland

Marty Price
Parkland Junior High, Rockville, Maryland

Kathleen Schrader
District of Columbia Refugee Service Center, Associated Catholic Charities, Washington, D.C.

Joyce Schuman
Arlington County Public Schools, Adult and Career Education, Arlington, Virginia

Phase III

Test Sites:

Cindy Jensen
International Rescue Committee, San Diego, California

Gwen Plank
Catholic Community Services, San Diego, Calfornia

Richard Butler
Lutheran Social Services of Colorado, Denver, Colorado

Richard & Rollie Butler
Catholic Resettlement Office, Denver, Colorado

Nguyen Dinh Thu
Vietnamese American Association, Oklahoma City, Oklahoma

Sister Ann Wisda & Margaret Barnett
Catholic Social Ministries, Oklahoma City, Oklahoma

Kathleen Lowry
International Rescue Committee, Portland, Oregon

Father John Nghi & Father Vincent Minh
Southeast Asian Vicariate, Portland, Oregon

And finally, Alian Gall of the U.S. Office of Refugee Resettlement, who provided continual advice, support and encouragement to staff throughout the Study.

To all of those who helped the Study, thank you very much. Despite all of this help, errors were no doubt made. If so, they are the responsibility of the authors alone.

We hope that future refugees who come to the United States will somehow benefit from these efforts as they go about learning English.

CHAPTER 1

Introduction

In October 1981, the U.S. Office of Refugee Resettlement awarded a contract to the Northwest Regional Educational Laboratory for the study of the provision of English language training for Southeast Asian refugees. The study entailed three phases: (1) a mail survey of English language training programs, (2) an on-site review of a sample of programs and (3) the measurement of adult refugees' acquisition of English as it related to language training and employment. The purpose of the entire study was to inform policy and program decisions concerning the provision of English language services for new arrivals as one aspect of promoting their self-sufficiency. To achieve this purpose, the study first surveyed programs to see what types of services were being provided, then program sites were visited to see what specific practices seemed to work best. Finally, Phase Three looked at the relative efficiency of English language training and employment in promoting English language acquisition. This report describes the results of the third phase. Results of the first two phases are reported in previous documents.

Phase III Study Questions

One current debate concerning newly arriving Southeast Asian refugees is whether self-sufficiency is best promoted through encouraging immediate employment or whether it is better to first encourage a period of intensive training in English as a Second Language (ESL). Immediate employment could have economic benefits as well as promoting English acquisition. Intensive English training could lead to better preparation for life in the United States in general, especially if English is required for job entry. In order to inform policy decisions and program design concerning this discussion, this Study asked the following questions:

1. What combination of ESL or employment best promotes acquisition of English?

2. Are there any background or experiential characteristics of various groups of refugees which would make one option better than another? That is, would one option be better for some individuals or groups than others?

3. Are there any background or experiential characteristics of various groups of refugees which overpower both options in terms of ultimate effect on English acquisition? That is, are there any particular types of individuals for which it makes no difference in English acquisition whether ESL or employment is suggested?

Structure of the Report

The report has three more chapters. Chapter II will briefly describe the Study design, selection of participants, representativeness of participants, variables considered in the Study, and data collection instruments used in the Study. Chapter III will describe the results. Each of the three study questions will be discussed individually, as will other interesting findings from the Study. Chapter IV will present conclusions and recommendations. Appendix A contains descriptive statistics from the study. Appendix B contains technical considerations about the study design and analyses.

CHAPTER II

Study Design

Data Collected in the Study

In order to look at what influences the rate of English acquisition and what background characteristics of individuals influence this acquisition we needed to find out:

1. The rate at which Southeast Asian refugees learn English. Therefore, Study participants (to be described below) were tested six months apart using an individually administered, oral, basic skills English test (also to be described below).

2. The amount of ESL and employment each person had between the two tests. The ESL factors looked at were the number of weeks of English in the native country, the number of weeks of English in refugee camps, the number of weeks of ESL between entry and the pretest, and the number of hours (weeks X the number of hours per week) of ESL between pre and post-test. Because the results of Phase II suggested that the number of students in an ESL class may affect the rate at which English is learned, we also collected this information.

   The employment information collected consisted of the number of hours of employment between entry and pretesting and the number of hours of employment between pre and post-testing. For those that were employed for all or part of the time between pre and post-testing, we also collected information on the frequency with which English was spoken on the job, whether or not the individual's supervisor spoke the native language, and the number of others on the job who spoke the native language. These factors were all considered to be important potential determinants of the effect that employment has on the acquisition of English.

3. Other factors which can contribute to English acquisiton and which might modify, enhance or overshadow the effects of ESL and employment. These included, first, background characteristics of the participants—age, sex, country of origin, amount of education, previous literacy and number of languages spoken. The second set of factors consisted of the frequency that English was spoken at home, the frequency that English was spoken at places other than home, job and ESL class, whether the individual had any American friends, the number of children at home who speak English, and how long the individual has been in the United States.

Sources of Information

As much information as possible was collected from existing files with the permission of participants. Pre and post-tests were given individually by trained native English speakers as part of the Study. Finally, any information which could not be obtained from files was obtained in an interview at post-test time conducted by a person fluent in the participant's native language.

Study Steps

1. Representative cities and representative Southeast Asian refugees within cities were selected for participation (a discussion of the rationale for the groups selected is given in the next section). Participation of cities and individuals was voluntary. Participants authorized release of information to us.

2. Information collectors were trained. These included on-site clerical persons who gathered information from files, on-site native English speakers who administered the English test, and on-site bilingual persons who contacted and interviewed participants.

3. Pretesting occurred during October and November, 1982.

4. Post-testing and interviewing occurred during March, April and May of 1983.

Study Participants

Selection of participants. One hundred Southeast Asian refugees in each of four cities were randomly selected from lists of all Southeast Asian refugees aged 18 and over who were placed by selected VOLAGs between January and March 1982 or between June and August 1982. (Note: In one of the cities several individuals with entry dates in April and May were included in the sample in order to reach 100. This should not affect the results since the entry date was used as a continuous variable in many analyses.)

The cities selected for the Study were San Diego, Oklahoma City, Portland, Oregon and Denver. These cities were chosen to represent a variety of economic conditions, employment rates, types of ESL programs, welfare situations, refugee impact and Southeast Asian ethnic concentrations. All were cities which had previously participated in other phases of this project. All continue to have high levels of new arrivals.

Since we wished to include in the Study a representative sample of all incoming refugees, we decided to request the participation of the VOLAGs in each city with the greatest number of placements so we could select from their case lists. U.S. Catholic Charities in all four cities agreed to participate as did the International Rescue Committee in Portland, Denver and San Diego.

In Oklahoma City, only U.S. Catholic Charities was included because there was no other VOLAG with enough new arrivals to include.

Individual participants in each city were selected to be representative of entry dates and of the various ethnic groups in each city, as well as to include persons of all ages and both sexes. Only recent arrivals were included in the Study because it was desirable to see what contributes to initial, rapid acquisition of English.

The VOLAGs prepared lists from their files of all incoming persons fitting the above description for possible participation. Two samples were selected--the primary and a secondary sample. Bilingual persons were employed in each city to call potential participants, tell them about the Study, request their participation and make appointments for testing. Participation was voluntary. If persons declined to participate or could not be reached, replacements were obtained from the secondary sample.

Description and representativeness of participants. Four hundred persons were pretested in the four cities. These participants came from a list of 960 persons in these cities who entered the United States during the times mentioned above and were placed by the participating VOLAGs. At post-test time, 308 of the original 400 persons were available to complete the Study. Thus, 77% of the original participants have complete test scores. Because of the nature of this Study it is important to see whether this final group of participants is representative of the original population in each city and whether it is representative of the national population of Southeast Asian refugees. The degree to which the sample is like these populations, is the degree to which we are justified in generalizing any relationships found in this Study to the Southeast Asian refugee population in general.

To see how similar the sample is to these larger populations, we have compared them with respect to all information which is available. For the original population (n=960) in each city, we have information about arrival date, ethnicity, gender and age (see Table 1 in Appendix A). For the original sample of 400, we have, in addition to the information listed above, the percent literate in a language other than English; the average years of education prior to entry; the average number of languages spoken other than English (see Table 2 in Appendix A); and average pretest scores (see Table 7 in Appendix A). Information on these variables, for the final 308 Study participants, is shown in Tables 4 and 7 in Appendix A.

Comparison of the final sample of 308 participants to the original sample of 400 prticipants shows the following:

- Pretest scores. The participants with all test scores (N=308) scored about the same on the pretest as the total original sample (N=400). This means that the final sample was representative of the original sample, in terms of initial English ability.

- Background characteristics. The samples are still proportional in terms of arrival dates, ethnic mix, gender, and amount of previous education. The final sample tends to be a bit older than the original sample (the result approaches significance).

When the final sample was compared to the original 960 persons in the cities, the following was found:

- o Background characteristics. The relative proportions of ethnic groups from the original list of refugees is preserved in the final sample. This means, that men are slightly over-represented in the sample (64% as compared to 59%). This is especially true of later arriving Vietnamese and Lao men. Earlier arriving Cambodian and Hmong men are slightly under-represented. The sample also tends to be slightly older (30.3) than those not in the Study (27.8). Hmong are under-represented (4% as compared to 10% in the population). This 6% is pretty evenly distributed among the other groups so that no other group is significantly over-represented.

When we attempted to compare our final sample to the national population of Southeast Asian refugees which entered during the same time periods, several constraints appeared. First, the national information we had is based only on October 1, 1981 to May 31, 1982. Second, Southeast Asian refugees were lumped in with all other refugees for the age and gender counts. This was not considered a major problem since 93% of the refugees were classified as Southeast Asian. Third, persons under age 18 were lumped in with adults for the total ethnic counts. We calculated the numbers, in Table 3 in Appendix A, by taking proportions of the total population (see Appendix B for details). Given these assumptions and constraints, when our final sample was compared to the national population, the following was found:

- o The distribution of ages is well represented in our sample.
- o Males are slightly over-represented in our sample (58% in the national population v. 64% in our sample).
- o Laotians (Lao plus Hmong plus Mien) are over-represented and Cambodians are under-represented in our sample.

Thus, it appears that our final sample of 308 Southeast Asian refugees is very much like the original sample and somewhat different from the national sample in terms of the information available for these groups. Differences are not seen as critical since, for the most part, they are small and in many analyses we have attempted to determine the influence of these factors. The specific similarities and differences (especially the over-representation of males will be used to explore the implications of the Study.

The BEST Test

The test used to measure the participants' acquisition of English was the Basic English Skills Test (BEST test). This test was developed by the Center for Applied Linguistics (CAL) (3520 Prospect Street, NW, Washington, D.C., 20007) specifically for use with Southeast Asian refugees who have little or no English skills. The test has both an oral basic English skills section and a literacy section. We used only the oral portion of the test. There are four subtests--(1) Listening Comprehension which tests the ability to

understand English (10 items), (2) Communication which tests the ability to answer simple questions (20 items), (3) Fluency which tests the ability to discuss simple everyday topics (10 items), and (4) Reading/Writing which tests the ability to read simple signs and fill out an application form (9 items). (Note: We did not administer the reading/writing item which asked the participant to fill in his/her alien identification number because it was felt that differences between cities in the proportion of persons carrying such information would compromise comparability.) The test is admministered individually in a single sitting which takes anywhere from 15 to 30 minutes depending on the English skill of the participant.

Results of our Study support those of CAL's in terms of the quality of the items, and the overall test reliability and validity. (For example, the correlation between pretest and post-test scores in our Study was .88 and only five-item scores correlated less than .55 with the total score. In addition, correlation with individual's self-rating of their English ability was .66. See Appendix B for more details.)

For all analyses, we used only the total score for the test (92 possible points). We did not look at subtest scores separately for two reasons. First, our analysis of the test did not support the subtest structure of the test--some of the subtests did not appear to be assessing different skills. Second, the reliability of a test score increases with more items.

CHAPTER III

Results

This chapter is divided into two sections. The first discusses interesting facts which appeared when the information collected about the groups was analyzed. The second section looks at the results which related to the three major study questions, and discusses them in light of the information in the first section. (Note: In the following discussion early arrivals are those who entered between January and March, 1982 with a few in April. Late arrivals are those who entered between June and August, 1982 with a few in May.)

Descriptive Statistics--Interesting Relationships and Features

Features of the original population. As we presented earlier, the sample included in the Study was chosen from an initial list of 960 candidates in four cities. Some interesting facts about this original population are (see Table 1 in Appendix A):

1. The average age of adults varies across ethnic groups. The Vietnamese are the youngest with an average age of 28.1 years. All other groups have an average age over 30 years.

2. Overall, 59% of the original group were male. This is true for both early and late arrivals. The gender distribution differs, however, across ethnicities. The Vietnamese had the highest proportion of males (64%), while the Cambodians and Hmong had the lowest proportion of males (48%).

3. Ethnic groups were represented in different proportions depending on arrival data. There were proportionally more Hmong and Mien (13% more) among the early group and more Vietnamese (10% more) among the late arrivals.

Features of the sample. Much information was gathered about the final sample in the Study. This information concerns the amount of English instruction during various time intervals, the degree of employment in the group and other information which might affect the rate of English acquisition. Some interesting results are:

1. Background Characteristics (see Table 4 in Appendix A)

   a. The sample parallels the original population in terms of gender distribution and average age of participants. All groups, but especially the Vietnamese (and now Mien), have substantially more men participating than women. Since participation was voluntary, this was probably unavoidable. Again, the average age of Vietnamese was under 30 (27.9) while the average age of all other groups was over 30.

b. A high percentage of participants (83% overall) reported that they are literate in a language other than English. The Vietnamese have the highest literacy rate (97%) while the Hmong have the lowest (54%).

c. There is a wide variation in the number of years of education that participants report. The Vietnamese report an average of 9.1 years of education prior to arrival while the Hmong and Mien report less than 4. The average is 7.3 years.

2. ESL Experience

a. By self-report and current records, it appears that a high proportion of Southeast Asian refugees have had some ESL both before entry to the United States and since entry. Prior to U.S. entry, 24% had some ESL in their native country (an average of 33.5 weeks) and 76% reported having some ESL in a refugee camp (an average of 13.3 weeks). Later arrivals had more ESL in camps as programs become more fully operational. Considering ESL taken both in the camps and in the country of origin, 80% report having taken some ESL prior to U.S. entry, with an average of 49 weeks. Although the 80% figure is fairly constant across ethnic groups, the average number of weeks of ESL is not. The Vietnamese report an average of almost 70 weeks prior to entry while the other groups report averages of 25 weeks or under. This likely reflects the greater exposure of the Vietnamese to English in their native country. This corresponds with results found in Phase II of the Study.

Seventh-five percent of the early arrivals reported having ESL between entry and pretesting with an average of 17 weeks (on the average about 33 weeks was available). Thirty-four percent of the late arrivals reported having ESL between entry and pretesting with an average of 5 weeks (only about 8 weeks was available).

Sixty-nine percent of the early arrivals reported having ESL between pre and post-testing with an average of 18 weeks/242 hours. Eighty-five percent of late arrivals reported having ESL between pre and post-testing with an average of 22 weeks/346 hours. For both groups about 26 weeks was available.

From the above numbers it appears that participation in ESL is high. Also, the first three months of residence seems to be a time with low attendance in ESL. Between entry and pretest, the early arrivals (those who had been here for six months) had a much much higher participation rate than the late arrivals. Between pre and post-test, however, the late arrivals caught up.

b. The above numbers were based on all participants. A few interesting facts appear when one considers just those 238 participants who had any amount of ESL between pre and post-test. The average number of weeks for these was 25 with

an average of 375 hours. This was fairly consistent across arrival dates and ethnic groups. Thus, those that take ESL take it in about the same quantity.

Also, for those with ESL between pre and post-test, the average size of the class was about the same across arrival dates and ethnic groups (about 18).

c. We also tried to see what variables were related to the amount of ESL taken (see Appendix B). First, there were moderate correlations (.20-.29) between all measures of the amount of English training (prior to entry, between entry and pretest and between pre and post-test) and test scores. The amount of ESL prior to entry is moderately related (r's of .2 to .5) to (1) self ratings of ability to speak English; (2) whether an individual is employed; (3) the frequency with which English is spoken at home; and (4) whether individuals have American friends. The number of hours of ESL taken between pre and post-test is also moderately related to self-rating of the ability to speak English to strangers, age and amount of English taken between entry and pretest. It is negatively related to whether a person is employed.

Unsurprisingly, those that have been here the longest have taken the most ESL. Those that are younger tend to take a little more ESL. There appear to be no overall large effects of gender, ethnicity, or the number of previous years of education on the amount of the ESL taken in the United States.

Because there were so many variables related to the amount of ESL taken, we did some analyses to see which of them seemed to be most important (i.e. accounted for the most variance in amount of ESL taken). The most important predictor of the amount of ESL taken between pre and post-test was the amount of work (again, people who work more take less ESL). Given equal amounts of work, variables which predict the amount of ESL between pre and post-test were present skill level (higher skill levels take more ESL) and the amount of ESL taken before (people who take ESL continue to take ESL). The amount of ESL previously taken appears to depend, in turn, on the amount of education a person has had.

One caution is that although these variables accounted for 42% and 26% of the variance in amount of ESL between entry and pretest and between pre and post-test, respectively, there is still variance left to be explained. This unexplained variance may be due to other factors not measured in the Study, due to an error in the data or due to a lack of spread in the values of the amount of ESL taken. Thus, although measured variables are relatively predictive, they do not account for all the differences in the amount of ESL taken.

3. Employment History

a. Approximately 12% of the participants worked between entry and pretest for an average of 70 total hours while about 24% worked between pre and post-test for an average of 151 total hours (by self-report). (For those that did work at all, the average number of hours was 614.) Thus, both the number of workers and the amount of time worked increased with time in the United States. Further evidence of this is apparent when we compare early versus late arrivals. Only about 6% of the late arrivals worked between entry and pretest (about 8 weeks available since entry), 17% of the early arrivals worked between entry and pretest (about 33 weeks available since entry), 18% of the late arrivals worked between pre and post-test (about 34 weeks available since entry), and 31% of the early arrivals worked between pre and post-test (about 59 weeks available since entry). This same trend is also apparent in the number of hours worked.

b. The percent of persons working was greatly influenced by the city in which they lived. Of the 74 workers between pre and post-test, 47 were in Oklahoma City.

c. The employment rate also varied between ethnic groups. The Cambodians had the highest percentage of workers (25% between entry and pretest, 48% between pre and post-test). For those that worked, however, the average number of hours worked was about the same between groups.

d. Besides ethnic group and arrival date, another factor moderately related to employment rates appears to be self-rating of ability to speak English. In addition, one predictor of the amount of employment between pre and post-test is the amount of employment between entry and pretest. Thus, persons who work tend to keep working. Among other variables which are not correlated with the amount of employment are test scores, age, gender and amount of previous education.

e. Those persons who did work reported a high frequency of the use of English on the job. This is probably related to the fact that very few workers reported supervisors or co-workers that spoke their native language.

4. The Relationship Between Employment and ESL

a. Overall, there was a moderately negative relationship (-.29) between the number of hours worked and the number of hours of ESL. This means that more work is associated to less ESL and vice versa. Within the group that both worked and had ESL (48 persons), this relationship is smaller. The conclusion to be drawn thus appears that working and going to ESL class tend to be mutually exclusive for most persons. This is supported by the fact that only 48 persons (16%) did both, 216 persons (70%)

did only one or the other and 43 persons (14%) did neither. For those who do both, however, the presence of one does not necessarily get in the way of the other, although those who do both work and take ESL class work slightly fewer hours than those who only work.

b. There are some other factors which appear to be related to the mix of ESL and employment taken. Persons with longer periods of residence tend either to both take ESL and work or to do neither, while persons who are newer arrivals tend to take ESL only. Men tend to both work and take ESL more than women do, who tend more to do neither. Cambodians tend to do both more than other groups. Also the ability to speak English appears to be related to doing both. As self-rating of the ability increases so does the proportion of persons both working and going to ESL class. Those who are neither working nor going to ESL class have significantly lower English skill levels as measured by the BEST test.

Factors Related to the Acquisition of English

Three sets of analyses were used to examine the issue of what contributes to English acquisition. We first looked at overall descriptions of status and gains. Then we examined what contributes to overall English skill level. Finally we looked at what contributes to gains in English skill.

Description of skill levels. Table 7 in Appendix A shows average pretest, post-test and gain statistics for persons with both pre and post-test scores. Across groups and entry periods the gain in scores averaged 8.6 points. Later arrivals tended to gain more than the earlier arrivals due primarily to the fact that their pretest scores were lower. There were differences between the ethnic groups on both pre and post-test averages, but not on gains. One interesting point with respect to this observation is that the differences between the groups (as will be seen in the next section) appears to be due to differences in their educational level and gender mix. In fact, when these factors are taken into account, the differences between ethnic groups disappears. The same is true for cities. There are differences among cities on pretest, post-test and gain. But again, there are also differences among cities in testers and mix of participant characteristics. Therefore, it is difficult to attribute differences between cities to their respective ESL programs, economic situations, etc.

One extremely interesting analysis compares test scores of persons who: both worked and took ESL, only took ESL, only worked and who did neither (see Table 8 in Appendix A). Although those who both worked and took ESL had the overall highest pre and post-test scores, those that only took ESL had the biggest gains.

Other factors having moderate to large simple correlations with skill levels are:

Correlations with pre and post-test--amount of ESL before entry (.41, .36), amount of ESL between entry and pretest (.26, .23), amount of ESL between pre and post-test (.21, .32), the frequency of speaking English at home (.25, .30), whether a participant has American friends (.36, .35), age (-.46, -.57), gender (-.32, -.34--men were coded as "1" and women were coded as "2"), number of years of education (.74, .66) and previous literacy (.53, .54).

Factors most related to overall skill. Because we examined so many variables in this Study, many of which are interrelated, we ran a series of analyses designed to discover which factors were related the most to skill level and gain. That is, which variables account for the most variance in the skill and gain scores.

First, we looked at the effect of most Study variables (age, education, literacy, gender, ethnicity, number of languages spoken, amount of ESL before entry, amount of ESL between entry and pretest, the amount of ESL and pre and post-test, length of residency, the presence of American friends, and the number of hours worked) with post-test scores. (Other variables, such as the number of children at home who speak English, were left out of the analysis because of their low simple correlations with post-test scores.) One variable, pretest score, accounted for 76% of the variance in post-test scores. Thus, persons who start at a higher skill level continue to have a higher skill level. Given comparable skill levels on the pretest, however, the variables which account for most of the remaining variance are age, the total amount of English training between pre and post-test, previous literacy and gender.

Since persons who have a high initial skill level continue to have a high skill level, we attempted to find out what contributed to that high skill level to begin with. Thus, we looked at the influence on pretest scores of several background variables and experiences between entry and pretest (such as employment and ESL). The most important contributor to pretest skill level was amount of previous education. This variable accounted for 56% of the variance in pretest scores. Four variables accounted for another 14% of the variance--the amount of ESL taken between entry and pretest, age, the number of other languages spoken and gender. Thus, it appears that background characteristics of the participants and ESL contributes to initial skill level.

To corroborate this finding, we looked at what predicts post-test scores leaving out pretest scores. The rationale was that since the pretest skill level is related to other variables, the effect of the pretest scores account for much of the effect of these other factors and more. Leaving out the pretest scores would allow the other varibles to demonstrate themselves more directly. When pretest is removed as a predictor, the variables that are related to post-test skill level are the same as those related to pretest skill--previous education, age, sex, the amount of ESL and the number of languages spoken. Thus, although entering the skill level best predicts subsequent skill level, if information about the skill level is not available, background variables (education, etc.) are still highly predictive.

The conclusion appears to be that background factors contribute most to overall English skill level. A non-negligible influence is, however, ESL. (See Table 8 in Appendix A to see the effects of these variables.) The amount of ESL is moderately related to skill level. Also, given persons with similar background characteristics, ESL accounts for much of the remaining differences in English proficiency.

Factors related to gain. To look at this question further we examined the influence of most of the Study variables on gain scores. The effects of age, amount of ESL between pre and post-test, amount of previous education, the amount of ESL between entry and and pretest and previous literacy accounts for 18% of the variance in test scores (21% of the variance was accounted for by all Study variables). We considered the figure of 21% to be fairly good given the usual unreliability of gain scores. There are three likely reasons why more of the gain is not accounted for. First, as mentioned above, gain scores are notoriously unreliable--errors of measurement for both pre and post-test add up. This increases the amount of spread in scores which is due to "error" and so decreases the amount of "real" spread that can be predicted. Second, the gains were fairly modest, leaving relatively little to predict. Finally, there might be other varibles not measured by this Study which are more related to gain.

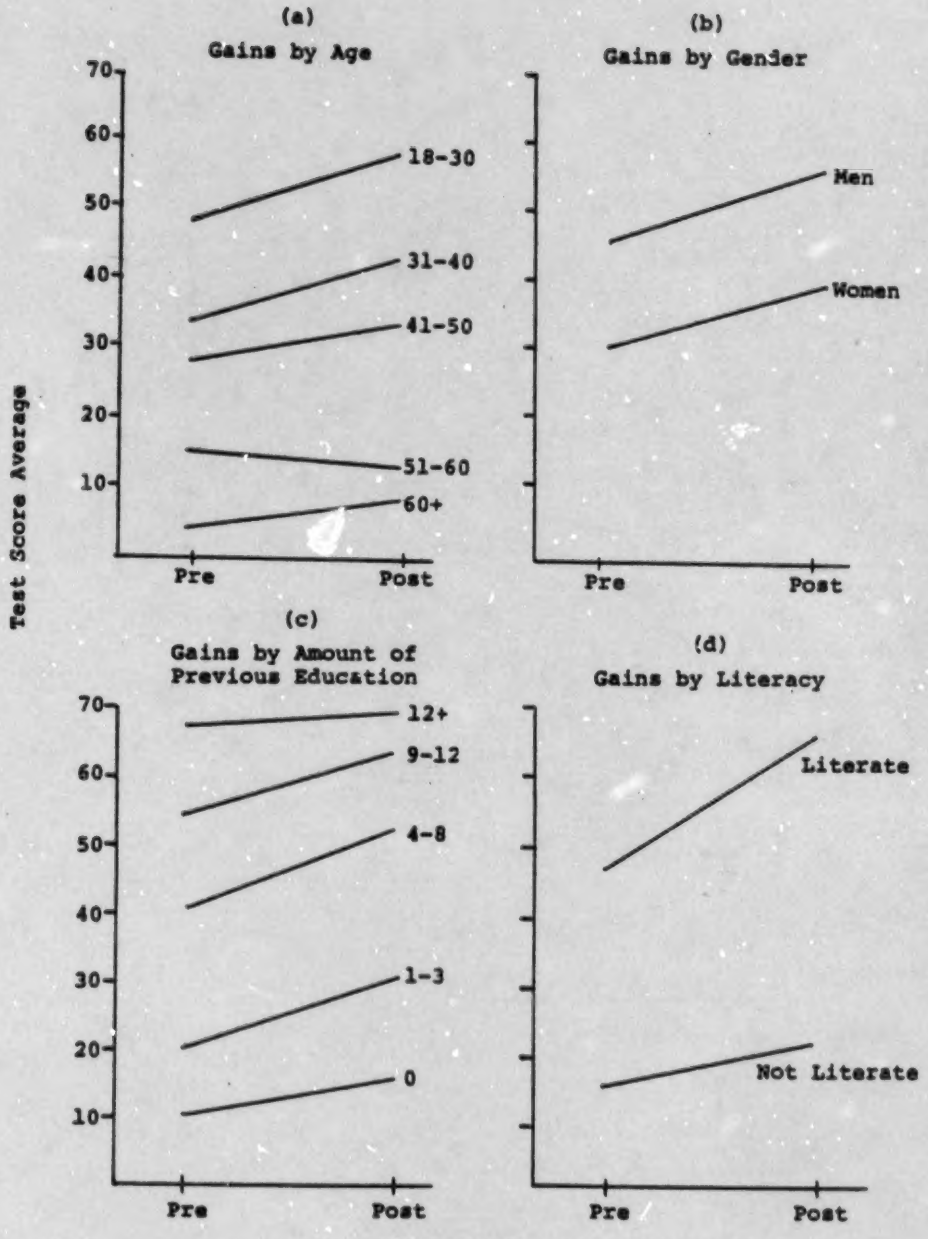

Figure III-1: Relationship Between Gains in English Proficiency and Population Characteristics

(e)

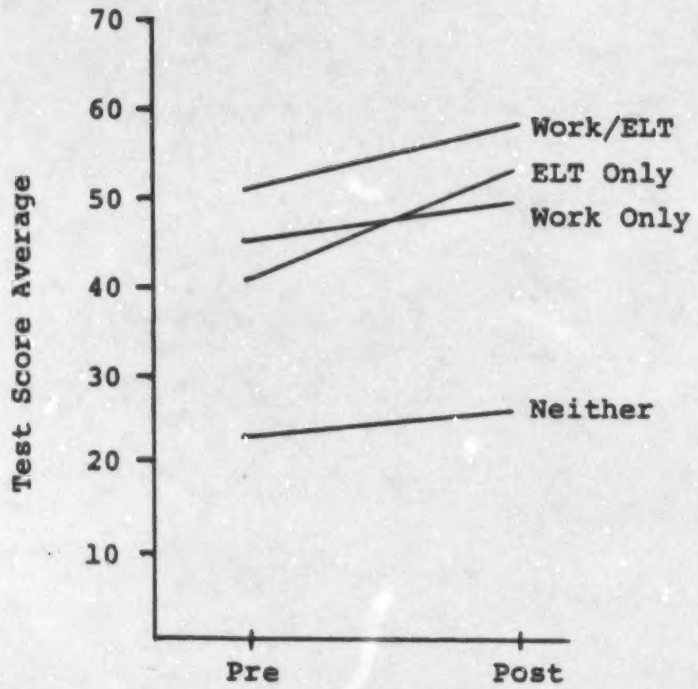

Figure III-2: Relationship Between Gains in English Proficiency and Work/ELT Experience

CHAPTER IV

Conclusions

Conclusions will address each of the major Study questions for Phase III:

1. What combination of ESL and employment best promotes acquisition of English?

   In this Study, it appears that, of the two, ESL promotes acquisiton of English much more than employment. ESL appeared as an important contributor in most analyses while employment appeared in none. In fact, increased employment tends to decrease the amount of ESL taken. This is not to say, however, that encouraging employment does not have important social functions. It says only that ESL contributes more to acquisition of English than employment does. Analyses of community survey data in Phase II suggested both English language training and employment contribute to English aquisition. In considering those findings with the present ones, two points should be kept in mind. First, the gains reported in Phase III are over the initial year of resettlement, while those in Phase II are over a much longer three-year period. Second, different populations and methodologies were used. The Phase III methodology offers a more powerful test and sharper results.

2. Are there any background or experiential characteristics of various groups of refugees which would make one option better than another?

   There is no evidence in this Study that the above conclusion would differ for any subgroup. Keeping in mind that the Phase II results are based on a population in the United States from one to three years, whereas the present findings apply to a more recently arrived population, it may be the case that ESL is more effective than employment early in the resettlement process.

3. Are there any background or experiential characteristics of various groups of refugees which overpower both options in terms of ultimate effect on English aquisition?

   Results indicated that the most important predictor of English skill is the amount of previous education. Thus persons who have had more education in the past will have higher English skill levels at a given point in time. Other important background factors are age and gender. Younger persons and men have higher English skills. The most important predictor of gain is age—younger persons acquire English faster than older persons. Another important background predictor of gain was the number of years of previous education.

Even though some of the background characteristics of Study participants influence skill and gain the most, ESL also emerges as an important factor. Among people having similar background characteristics, those taking ESL learn English faster than those who do not. Any effects of employment on the acquisition of English are completely overpowered by the other Study variables.

These results concur with the results of Phases I and II except as noted above.

APPENDIX A

TABLES AND FIGURES

TABLE 1

CHARACTERISTICS OF THE ORIGINAL POPULATION IN THE FOUR CITIES

Characteristic	Arrival Date	Vietnamese	Lao	Cambodian	Hmong	Mien	Total
Number in Population	Early	309	81	94	52	20	556
	Late	265	54	62	23	0	404
	Total	573	135	155	75	20	960
Percent Men	Early	65%	52%	47%	48%	60%	58%
	Late	62%	59%	50%	48%	--	59%
	Total	64%	55%	48%	48%	60%	59%
Average Age	Early	27.8	30.8	33.8	29.9	34.5	29.6
	Late	28.5	30.9	31.5	33.4	--	29.5
	Total	28.1	30.8	32.9	30.9	34.5	29.5

TABLE 2

BACKGROUND CHARACTERISTICS OF THE ORIGINAL 400 PARTICIPANTS

Characteristic	Arrival Date	Vietnamese	Lao	Cambodian	Hmong+	Mien+	Total
Number in Sample	Early	113	36	39	10	7	205
	Late	120	28	38	9	0	195
	Total	233	64	77	19	7	400
Percent Men (N=400)	Early	70%	53%	56%	60%	86%	64%
	Late	64%	64%	51%	56%	—	61%
	Total	67%	58%	54%	58%	86%	63%
Average Age (N=400)	Early	27.6	33.2	32.8	29.5	37.6	30.0
	Late	28.0	29.5	32.7	29.2	—	29.2
	Total	27.8	31.6	32.7	29.4	37.6	29.6
Percent Literate in Language Other Than English (N=328)	Early	96%	64%	60%	67%	71%	84%
	Late	97%	70%	74%	62%	—	87%
	Total	97%	67%	71%	65%	71%	85%
Average Years Education Prior to Entry (N=379)	Early	8.7	4.4	5.3	4.6	0.8	6.9
	Late	9.4	3.8	4.9	1.7	—	7.5
	Total	9.1	4.1	5.1	3.4	0.8	7.2
Average Number of Languages Spoken Other Than English (N=365)	Early	1.2	1.5	1.4	2.3	3.9	1.5
	Late	1.5	1.5	1.3	2.2	—	1.4
	Total	1.4	1.5	1.3	2.3	3.9	1.5

+Based on very few cases

TABLE 3

CHARACTERISTICS OF NATIONAL REFUGEE POPULATION

October 1981 - May 1982

Characteristic	Vietnamese	Lao	Cambodian	Hmong	Mien	Total	Total 18 Or Over
Number of Arrivals	27,276 (56%)	6,284 (13%)	15,492 (32%)	Not Separated		49,072	27,971*
Number of Males	n/a	n/a	n/a	n/a	n/a		16,276**
Percent of Males	n/a	n/a	n/a	n/a	n/a		(58%)
Average Age	n/a	n/a	n/a	n/a	n/a		30.6***

* Assuming ages 1-17 are distributed similarly among Southeast Asian and other refugee groups, i.e., 43% of all arrivals under age 18. Fifty-seven percent of Southeast Asian arrivals are 16 or older.

** Since 93% of all refugee arrivals are Southeast Asian, we will use overall statistics on refugees in general to estimate percentage of male and average age for Southeast Asians. Since age and sex are crossed, we can get an actual count of adult males and females

Number of male adult Southeast Asians = 93% x total number adult male = 93 x 17501 = 16,275.93

Percent of male adult Southeast Asians = (93% x total number adult male) (.93 x total population) = adult male/total population

*** Since ages are reported by ethnicity, we used the formula:

Average age = (Σ (mid point of range) x (# in range))/N

TABLE 4

BACKGROUND AND OTHER CHARACTERISTICS OF
PARTICIPANTS WITH BOTH PRE AND POST-TEST SCORES

Characteristic	Arrival Date	Vietnamese	Lao	Cambodian	Hmong	Mien	Total
Number in Sample	Early	80	29	29	9	7	154
	Late	101	23	24	6	-	154
	Total	181	52	53	15	7	308
Percent Men	Early	66%	52%	59%	56%	86%	62%
	Late	67%	70%	52%	50%	—	65%
	Total	67%	60%	56%	53%	86%	64%
Average Age	Early	27.7	35.0	33.7	31.4	37.6	30.8
	Late	28.0	30.7	35.7	29.8	—	29.8
	Total	27.9	33.1	34.6	34.2	37.6	30.3
% Literate in Language Other Than English	Early	98%	59%	62%	62%	71%	81%
	Late	97%	70%	61%	40%	—	86%
	Total	97%	64%	62%	54%	71%	83%
Average Years Education Prior to Entry	Early	8.5	4.8	5.5	4.7	0.8	6.8
	Late	9.6	4.1	4.4	1.2	—	7.7
	Total	9.1	4.5	4.9	3.4	0.8	7.3
Average Number of Languages Spoken Other Than English	Early	1.3	1.5	1.3	2.3	3.9	1.5
	Late	1.5	1.6	1.2	2.2	—	1.5
	Total	1.4	1.5	1.3	2.3	3.9	1.5
% Speaking Eng. Occasionally & Frequently at Home	Early	45%	72%	38%	44%	43%	49%
	Late	35%	56%	52%	17%	—	40%
	Total	61%	65%	56%	67%	43%	44%

TABLE 4

Continued

Characteristic	Arrival Date	Vietnamese	Lao	Cambodian	Hmong	Mien	Total
% Speaking Eng.	Early	68%	75%	75%	67%	43%	69%
Occasionally &	Late	60%	73%	93%	0	---	65%
Frequently Other Than ESL & Job	Total	64%	74%	82%	67%	43%	66%
Percent Having	Early	35%	31%	52%	38%	50%	38%
American Friends	Late	29%	43%	38%	0%	—	31%
	Total	32%	36%	45%	21%	50%	35%
Average Number	Early	1.8	2.3	2.7	1.2	2.4	2.1
of Children at	Late	1.7	1.2	2.4	2.0	—	1.8
Home Who Speak English	Total		N O T	A G G R E G A T E D			

TABLE 5

ESL INFORMATION FOR THOSE WITH PRE AND POSTTESTS:
BEFORE ENTRY, BETWEEN ENTRY AND PRE, AND
BETWEEN PRE AND POST

Characteristic	Arrival Date	Vietnamese	Lao	Cambodian	Hmong	Mien	Total
Number and Percent Having Some ESL Prior to Entry	Early	67 (84%)	21 (72%)	22 (76%)	5 (56%)	5 (71%)	120 (78%)
	Late	86 (85%)	17 (74%)	20 (83%)	3 (50%)	-- --	126 (82%)
	Total	153 (84%)	38 (73%)	42 (79%)	8 (53%)	5 (71%)	246 (80%)
Average Number Weeks of ESL Prior to Entry	Early	71.9	22.5	19.7	17.9	25.1	48.5
	Late	66.3	26.7	19.6	11.6	--	49.8
	Total	68.8	17.0	19.7	15.5	25.1	49.1
Number Having ESL Between Entry & Pre	Early	65 (81%)	21 (72%)	18 (62%)	6 (67%)	6 (86%)	116 (75%)
	Late	73 (72%)	12 (52%)	16 (67%)	4 (67%)	-- --	105 (68%)
	Total	138 (76%)	33 (63%)	34 (64%)	10 (67%)	6 (86%)	221 (72%)
Average Number Weeks of ESL Between Entry & Pretest	Early	18.8	12.3	16.3	16.3	19.1	17.0
	Late	5.2	3.6	6.8	4.8	--	5.3
	Total	NOT AGGREGATED					

Table 5

Continued

Characteristic	Arrival Date	Vietnamese	Lao	Cambodian	Hmong	Mien	Total
Percent Having ESL Between Pre and Posttest	Early	52 (65%)	21 (72%)	17 (58%)	9 (100%)	7 (100%)	106 (69%)
	Late	84 (83%)	22 (96%)	19 (79%)	6 (100%)	-- --	131 (85%)
	Total	136 (75%)	43 (83%)	36 (68%)	15 (100%)	7 (100%)	237 (77%)
Average Number Hours ESL Between Pre & Posttest	Early	245	276	166	300	297	242
	Late	342	378	295	470	--	346
	Total	299	321	223	368	297	293
For Those With ESL: Average Number Hours (N=238)	Early	373	380	284	300	297	349
	Late	403	396	345	470	--	397
	Total	392	388	316	368	297	375
For Those With ESL: Average Size of Class (N=238)	Early	19.0	16.9	13.8	18.2	19.6	17.6
	Late	19.0	16.2	20.1	18.7	--	18.6
	Total	19.0	16.5	17.1	18.4	18.6	18.2

TABLE 6

JOB INFORMATION BEFORE PRETEST AND BETWEEN
PRE AND POST-TEST FOR THOSE WITH COMPLETE SCORES

Characteristic	Arrival Date	Vietnamese	Lao	Cambodian	Hmong	Mien	Total
Number and Percent Employed Between Entry and Pre	Early	(14%)	(10%)	(41%)	(0)	(0)	26 (17%)
	Late	(7%)	(9%)	(4%)	(0)	—	10 (6%)
	Total	(10%)	(10%)	(25%)	(0)	(0)	(12%)
Average Number Hours Worked Between Entry And Pre (N=306)	Early	103	36	358	0	0	127
	Late	13	11	16	0	0	12
	Total	53	25	205	0	0	70
Average Number Hours Worked for Those That Had Jobs Between Entry and Pre (N=35)	Early	750	347	860	0	0	754
	Late	185	240	360	0	0	211
	Total	530	320	821	0	0	614
Number and Percent Employed Between Pre and Post	Early	22 (28%)	6 (21%)	17 (59%)	1 (11%)	1 (14%)	47 (30%)
	Late	16 (16%)	3 (13%)	8 (35%)	0 0	0 0	22 (18%)
	Total	38 (21%)	9 (17%)	25 (48%)	1 (7%)	1 (14%)	74 (24%)
Average Number Hours Worked Between Pre and Post (N=300)	Early	155	104	518	71	10	203
	Late	79	13	292	0	0	98
	Total	112	64	417	43	10	151

TABLE 6 (CONTINUED)

Characteristic	Arrival Date	Vietnamese	Lao	Cambodian	Hmong	Mien	Total
Average Number Hours Worked For Those Who Had Jobs Between Pre and Post	Early	627	580	882	--	70	710
	Late	514	140	841	--	--	589
	Total	577	454	869	--	--	665
For Those Who Had Jobs Between Pre & Post & Speaking English Occ. & Freq. on the Job (N=71)	Early	19 (95%)	4 (67%)	14 (82%)	-- --	1 (100%)	40 (90%)
	Late	13 (81%)	2 (67%)	8 (100%)	-- --	-- --	24 (89%)
	Total	32 (89%)	6 (67%)	22 (88%)	-- --	1 (100%)	64 (90%)
For Those Who Had Jobs Between Pre & Post: Aug. Number Other Workers Spkg Language 1	Early	4.0	2.8	2.8	0	0	3.3
	Late	1.8	11.0	1.4	--	--	2.7
	Total	3.0	5.6	2.3	--	0	3.1
For Those Who Had Jobs Between Pre & Post: Percent Having Boss Speaking Language 1	Early	2 (10%)	0 (0)	0 (0)	- -	0 (0)	2 4%
	Late	1 (6%)	0 (0)	0 (0)	- -	- -	1 (4%)
	Total	3	0	0	-	0	3

TABLE 7

BEST TEST SCORES: PRE, POST AND GAIN FOR PERSONS WITH COMPLETE SCORES (GROUP A, N=308) AND TOTAL PARTICIPANTS (N=400)

Characteristic	Arrival Date	Vietnamese	Lao	Cambodian	Hmong	Mien	Total
Total Participants Pre & Post Scores	Early	45.8	31.8	39.9	41.1	20.7	41.1
	Late	47.7	27.5	32.1	19.1	--	40.5
	Total	46.8	29.9	36.0	30.7	20.7	40.8
Group 1 Pretest	Early	45.9	33.4	37.3	38.4	20.7	40.3
	Late	48.8	28.6	29.7	20.3	--	41.7
	Total	47.5	31.2	33.9	31.2	20.7	41.0
Group 1 Post-test	Early	53.7	42.1	42.9	40.7	30.1	47.6
	Late	57.2	42.4	40.4	38.2	--	51.6
	Total	55.6	42.3	41.7	39.7	30.1	49.6
Group 1 Gain	Early	7.8	8.8	5.5	2.2	9.4	7.3
	Late	8.4	13.9	10.7	17.8	--	9.9
	Total	8.1	11.0	7.8	8.5	9.4	8.6

TABLE 8

RELATIONSHIP BETWEEN SKILL LEVEL AND OTHER INFLUENTIAL VARIABLES

Variable	N	Pre	Post	Gain
Both Job and ESL	.48	51.6	57.8	6.2
ESL Only	190	41.7	52.7	11.0
Job Only	26	45.2	49.4	4.3
Neither Job Nor ESL	43	23.0	26.1	3.1
Men	195	46.6	56.0	9.4
Women	113	31.4	38.7	7.3
Adults Aged 18-30	191	48.4	58.5	10.1
Adults Aged 31-40	59	34.8	43.5	9.4
Adults Aged 41-50	36	28.1	34.3	6.2
Adults Aged 51-60	16	16.5	13.9	-2.6
Adults Aged Over 60	5	4.8	8.2	3.4
No Previous Education	39	10.5	15.7	5.2
Educated 1 - 3 Years	33	20.0	30.4	10.4
Educated 4 - 8 Years	92	41.3	52.3	11.0
Educated 9 - 12 Years	101	54.7	63.4	8.7
Educated Over 12 Years	25	67.0	68.5	1.5
Literate in a Language Other Than English	252	20.4	56.0	9.1
Not Literate in a Language Other Than English	52	13.8	20.8	6.1

APPENDIX B

Technical Concerns and Information About The Study Design and Analyses

This appendix will discuss various technical topics deemed important but which might interfere with the flow of the text in previous chapters. Such topics include examination of various factors which might have influenced the results and actual inferential statistics. The appendix will follow the same organization as the report.

Chapter II--Study Design.

1. There were a few concerns about the reliability and validity of the information in the interviews. One general caution is that self-report information could be biased toward what individuals feel is the response which will make them look the best. This is especially true for such things as employment, literacy and frequency of speaking English. We cross-checked as much of this as possible against the partial information obtained from records at pretest time. Literacy and number of languages spoken, for example, matched in most of the cases. Self-report of English skill level also matched very well with test scores. We feel that, although the self-report information may be biased slightly toward the positive, in most cases it is as accurate as self-inspection and memory allow.

   In those few cases where the interview information did not match up with information from previous record examination, we used the information from the interviews. The rationale was first, that it was hard to tell which was right, and second, using interview information at least kept any bias constant across groups.

   A final concern about the interview information was the variation in how information was reported concerning the number of weeks of employment and ESL. We requested, that beginning and end dates be reported so that we could be accurate in determining number of weeks. Many persons, however, could not remember dates and so beginning and ending months were reported instead. So we used the following procedure to determine weeks:

   a. We used the midpoint of the month, unless there was some other information to indicate an exact date.

   b. Since this sometimes resulted in a total number of weeks greater than the number of weeks possible (e.g. between pre and post-test), we later adjusted them to be the maximum possible.

   c. Often, when persons were reporting the amount of English taken in their country of origin, they only reported the number of years or the beginning and ending year. We assumed, that English was taken during a standard school year of 39 weeks.

2. We ran several analyses designed to look at the technical quality of the BEST test and the quality of scores obtained.

   a. The correlation between pre and post-test was .88. This is very good considering that pre and post-testing was about six months apart. It is exceptional considering that 15 different testers were used in the four cities and only about 1/2 of the Study participants were tested by the same tester both pre and post.

   b. Correlations between test scores and self-ratings of English skill ranged between .48 and .67 (10 measures). This tends to validate both the test scores and the self-report.

   c. Correlations between item scores and total scores revealed that most items function well to measure English skill. Of the 49 items on the test, only 5 correlate less than .6 with total score. Twelve correlate greater than .75 with total score.

   d. A factor analysis of the pretest data did not support the subtest structure of the test. Four factors accounted for about 55% of the variance in the test scores. The first factor which accounted for 42% of the variance seems to be a general factor. It weights on a broad variety of items covering three of the subtests--listening comprehension, communication and reading/writing. The second factor weights on fluency items. The third factor weights on the items concerning first and last name. The fourth factor weights on the items concerning map reading. This lack of support for the subtest structure of the test was one of the reasons why we used only total score in our analyses.

3. In the test, we reported that the sample of participants with both pre and post-test scores (N=308), was fairly representative of the original sample of 400 participants. The following tables present the results of statistical analyses which lead to this conclusion.

Chi-Square Analyses

Comparison	Chi-Sq. Value	df	Probability
Group v. Entry Date	0.79	1	n.s.
Group v. Ethnicity	5.74	4	n.s.
Group v. Sex	0.18	1	n.s.

t-Tests

Comparison	Mean Square	df	F-Ratio	Probability
Age between Groups	468.10	1	3.94	n.s.
Education between Groups	6.97	1	0.36	n.s.

4. The following tables summarize the comparisons between the sample and the original population in the cities which did not participate in the Study.

Chi-Square Analyses

Comparison	Chi-Square	df	Probability
Group v. Gender	4.82	1	.03
Group v. Ethnicity	10.28	4	.04
Group v. Entry Cohort	50.19	1	.001

t-tests

Comparison	Mean Square	df	F-Ratio	Probability
Age by Group	1238.55	1	7.92	.005

5. Since we had incomplete national data, for the draft report, we used the information available to compare our final sample to the national population of Southeat Asian refugees. The information we had available was for all refugees. Further gender and age distributions were not broken out by ethnic group. This will be updated if further statistics are available. Therefore, for purposes of the current draft, the following assumptions were made when examining these figures.

   a. We assumed that persons aged 1-17 represented the same proportion of the population in Southeast Asian groups as for the entire refugee population. Therefore, since 57% of all refugees were 18 or over, 56% (27,971) of the Southeast Asians were 18 or over.

b. Since 93% of all refugee arrivals were Southeast Asian, we used overall statistics on gender and age distributions to estimate those for the Southeast Asian. That is,

adult, male Southeast Asian = .93 x total # of adult males
= .93 x 17501 = 16,276

% adult, male Southeast Asian = 16,276/(.93 x total # adult males)

c. Since ages were reported by range, we used the following formula to calculate the average age of adults:

Avg. Age = Sum of (midpoint of range x # in range)/Total number

Chapter III--Results

1. For Study participants, both pre and post-tested, the missing data rate is fairly low. For example, in some analyses which accessed most variables, 270 out of 308 cases were complete on all of them. Thus, missing data is not much of a problem in these analyses.

2. Even though the missing data rate is low for the Study, some groups are represented by only a few persons. This is because we selected participants for the Study in proportion to the numbers in the cities used. We did this because we wanted the overall results to be representative of the national population as a whole. But, as a consequence of this decision, although there are 181 Vietnamese in the sample, there are only 15 Hmong and 7 Mien. Making inferences about subgroups from such a small sample be kept in mind when looking at all averages and percentages by subgroup.

3. There were two factors which we thought might influence results from this Study.

   a. The first factor which would affect conclusions, if present, was floor and/or ceiling effects stemming from the BEST test being too hard or easy for the group. If the test were too hard or easy then the true skill level of the participants would not be measured and gain could be under or overestimated. Looking at the distributions of both pre and post-test scores, however, there appeared to be no floor or ceiling on the test. The test seemed to be of about the right level of difficulty for the group in general on both the pre and the post-test. Of the 92 possible points, the average pretest score was 41.0 (SD = 23.0). The late entering Hmong and the Mien both scored fairly low at pretest time (around 20), but we feel that these scores are accurate representations of the skill level of the participants. The average post-test score was 49.6 (SD = 24.8). All groups were well in the midrange of the test at post-test time.

   b. A second factor which might influence results if present was inter-tester differences. That is, some testers might be easier or harder scorers than others, since the BEST test requires some degree of judgment. To minimize differences, we carefully trained testers. However, to check inter-tester differences we compared their average pretest and post-test scores. It turned out that there were differences between some testers. We looked to see whether these differences might be due to testers systematically testing certain types of individuals (e.g. one person testing all women), but the distribution of genders, ages and ethnicities across testers appears to be the same. Thus, although there appears to be some differences between testers it is hard to quantify because of the confounding effects of who was tested. This difference between testers has the effect of increasing the error variance in the analyses which decreases the precision of analyses. Therefore, observed effects are probably a conservative estimate of actual effects.

4. The following tables present the results of statistical analyses which support the statements in the section on Descriptive Statistics--Interesting Relationships and Features.

Chi-Square Analyses on Background Variables

Analysis	Chi-Sq	df	Probability
Entry cohort by gender			n.s.
Entry cohort by job bet. entry and pre	7.94	1	.005
Entry cohort by job bet. pre and post	6.79	1	.01
Entry cohort by having American friends			n.s.
Entry cohort by freq. of Eng. at home			n.s.
Entry cohort by freq. of Eng. outside			n.s.
Entry cohort by self rating of skill	15.43	4	.01
Entry cohort by self rating--sit. 1			n.s.
Entry cohort by self rating--sit. 2			n.s.
Entry cohort by self rating--sit. 3			n.s.
Entry cohort by self rating--sit. 4			n.s.
Entry cohort by literacy			n.s.
Entry cohort by freq. of English on the job (for those who worked)			n.s.
Entry cohort by freq. of seeing American friends (for those with such)			
Combo of job/ESL by entry cohort	31.63	3	.0001
Combo of job/ESL by gender	23.90	.3	.0001
Combo of job/ESL by ethnicity	28.21	12	.006
Combo of job/ESL by self rating skill	107.70	15	.0001

ANOVAS on Background Variables

Analysis	Mean Sq.	df	F-ratio	Probability
City by age				n.s.
City by years of education				n.s.
City by number of languages spoken	4.28	3	8.58	.001
City by number weeks ESL before entry				n.s.
City by number weeks ESL between entry and pre	930.82	3	7.81	.001
City by number weeks ESL between pre and post	593.76	3	4.08	.01
City by number hours ESL between pre and post	820541.74	3	13.40	.001
Entry cohort by age				n.s.
Entry cohort by previous education				n.s.
Entry cohort by number languages spoken				n.s.
Entry cohort by number weeks English before entry				n.s.
Entry cohort by number weeks English between entry and pre	10300.35	1	110.72	.001
Entry cohort by number weeks English between pre and post	1407.84	1	9.66	.002
Entry cohort by number hours English between pre and post	821708.13	1	12.40	.001
Entry cohort by number kids at home speaking English				n.s.

Ethnicity by age	706.42	4	6.10	.001
Ethnicity by previous years of education	401.57	4	26.29	.001
Ethnicity by number languages spoken	13.07	.4	30.23	.001
Ethnicity by number weeks ESL in native country	51031.24	4	8.42	.001
Ethnicity by number weeks ESL in camps				n.s.
Ethnicity by number weeks ESL prior to entry	42254.22	4	6.66	.001

5. The following tables present information on the statistical analyses done in the section discussing variables related to English skill and gain.

ANOVAs on Pre Post and Gain Scores

Analysis	Mean Square	df	F-ratio	Probability
Pretest by City	1759.05	3	3.40	.02
Post-test by City	2367.35	3	3.95	.01
Gain by City	1739.06	3	13.62	n.s.
Pretest by Entry Cohort				n.s.
Post-test by Entry Cohort				n.s.
Gain by Entry Cohort				n.s.
Pretest by Ethnicity	4903.20	4	10.39	.001
Post-test by Ethnicity	4195.78	4	7.38	.0001
Gain by Ethnicity				n.s.

Pretest by Job/ESL Combination	6632.18	3	14.13	.0001
Posttest by Job/ESL Combination	9631.06	3	18.34	.0001
Gain by Job/ESL Combination	1056.68	3	7.86	.0001
Ethnicity by no. weeks ESL between entry and pre				n.s.
Ethnicity by no. weeks ESL between pre and post				n.s.
Ethnicity by no. hours ESL between pre and post				n.s.
Combo of job/ESL by years education	105.72	3	5.30	.001

Summary of Regression Analyses

Dependent Variable	Most Important Predictors (Listed in Order of Importance)	% of Variance Accounted for by Most Imp. Variable	% of Variance Accounted for by All Listed Variables	Total % Variance Accounted for by All Var. Used
Pretest	Education, ESL between entry and pre, age, number languages, gender	56%	70%	71%
Posttest (with Pretest)	Pretest, age, ESL between pre and post, literacy, gender	76%	81%	82%
Posttest (without Pretest)	Education, age, gender, ESL between pre and post, number languages, ESL between entry and pre	45%	68%	70%
Gain	Age, ESL between pre and post, education, ESL between entry and pre, literacy	8%	18%	21%